

DECEMBER
1949

THE AMERICAN RIFLEMAN

35
CENTS



SPRINGFIELD PATENT TROUBLES

By Gordon Lyle

AMONG the untold thousands of soldiers and civilian shooters to whom the Springfield rifle has been a weapon to swear by for accuracy and dependability, relatively few know of the patent difficulties experienced by the Army Ordnance Department shortly after that grand rifle and the M1906 .30-caliber ammunition were adopted. Though many books have been written about the Springfield rifle, most are of a technical nature and references to the patent troubles seem to have been made mainly in reports that circulated within the service. The true picture has always remained vague and indistinct, even to old employees in the Ordnance Department itself. The story of the transactions between the American government and the German interests that held legal patent rights to certain parts of the M1903 Springfield rifle and the five-round cartridge clips does not seem to have been told heretofore; neither has the story of the German who claimed the M1906 bullet infringed a U. S. dimensional patent that had been issued to him—a claim that was stubbornly contested for nearly a quarter of a century even though the life of the claimant's patent had expired before the case was ended.

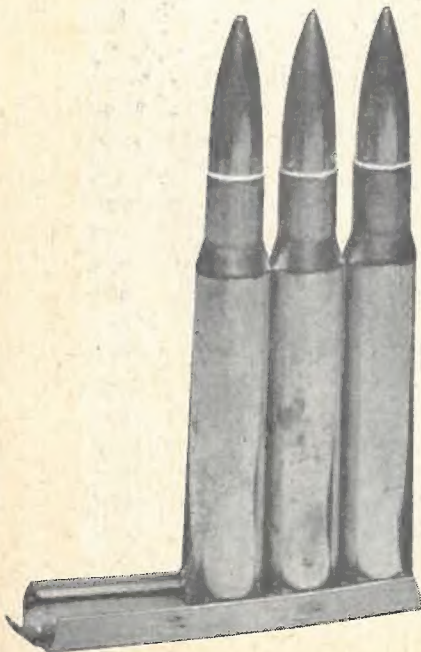
During the years 1900 to 1903 the Ordnance Department had developed at Springfield Armory a bolt-action weapon along the lines of the German Mauser rifle in use in the German Army. Early in the process of development it turned out that some of the Springfield parts fell within the claims

listed in the U. S. patents held by the Waffenfabrik Mauser Company of Wurtemberg, Germany. When the officials of the Ordnance Department discovered this situation General William Crozier, then Chief of Ordnance, requested the Mauser Company to send a representative to discuss the points at issue and determine the amount of royalties that would compensate the owners for use of their patents.

General Crozier's letter-invitation went forward from Washington under date of March 15, 1904, and on May 2 Mr. A. C. Fraser, the Mauser Company's American patent counsel, arranged to borrow a Springfield rifle and a five-round clip to study. About the middle of June 1904, the Ordnance Department was told two clip patents were being infringed and five Mauser rifle patents were involved. A royalty of one dollar per thousand clips and one dollar per rifle was suggested. It was also mentioned the patent owners would be willing to leave the decision to the U. S. Court of Claims under the provisions of section 12 of the so-called "Tucker Act." The counselor for the Mauser Company was assured the Ordnance Department meant to play fair in the matter and the subject was not mentioned thereafter. However, since the Comptroller of the U. S. Treasury Department was responsible for the proper negotiation of all Government contracts, the Comptroller was frequently consulted until the agreement in its final form was approved. In April 1905, Hon. R. J. Tracewell, then Comptroller, finally approved the terms that assured the Mauser Company fifty cents per thousand clips and seventy-five cents per rifle manufactured after December 22, 1904, payable semi-annually until the payments totalled \$200,000, which would be the total remuneration involved. In July 1909 the final voucher was sent forward to write finis to the arrangement that had been marked by cordiality from the beginning.

There were no more patent troubles as far as the rifle was concerned but about 1905 the Ordnance Department found it advisable to dispense with the round-nose bullet that had been used in the original M1903 rifle in favor of a lighter bullet with a pointed nose. The reason for the change was international rather than national. The 1903 ammunition had proved satisfactory and the nation was in position to hold its own with any possible adversary in combat or in shooting contests on the ranges. It wasn't long, however, before a new development in small-arms ammunition required that, in self-defense, the .30-caliber bullet be redesigned to assure greater velocity and a more nearly flat trajectory even though it might affect the striking power. The situation might aptly be said to have been brought about through the eternal wish of every nation to possess better weapons than any other, should hostilities become necessary.

The development that finally forced Army Ordnance to make a change in bullet design was of French origin. Strange as it may seem, it had its inception as far back as 1835. The thought occurred to a French Artillery officer that a pointed projectile being propelled by the same propellant charge as used for a round-nose projectile would swish through the air



Though Army Ordnance, after 1904, voluntarily paid a royalty on each Springfield clip, Germans obtained \$412,520.55 more in 1931

faster and with greater ease than the round nose because it offered less resistance to the air. That French officer was a Captain G. Piobert, who pondered the subject for nearly six years before he submitted his conclusions to his superiors. The Piobert idea remained confined to artillery projectiles until about 1891 when a Major Desaleux began to figure out how to apply the same idea to small-caliber shoulder weapons. It was three years before he submitted a design to higher authority, and three more years before a study was made officially by the French Army. Not until 1899 was manufacture of the approved bullet begun.

The bullet was subjected to tests that lasted about two years. Selected troops were assigned to the tests and every effort was made to keep the operations secret. On April 23, 1901 a general issue was approved and the bullet henceforth to be used in the Lebel rifle was identified as the *Balle D*.

When that claim became the basis of a damage suit filed in the U. S. Court of Claims, it lay dormant until the patent was seized by the Alien Property Custodian—thereby causing the U. S. Attorney General to arrange dismissal of the suit. After ten more years a tribunal set up to arrange settlement of damage claims of German and Austrian nationals against the United States, settled the claim. Though long since held by American legal counselors to be groundless, an arbitrary award was made, on the premise that the patent had been seized in violation of a treaty. Together with interest, it amounted to more than double the \$200,000 that had been voluntarily passed to the Mauser interests without any dissension.

The shape of the M1906 bullet had been considered as far back at 1894 when an officer in Frankford Arsenal experimented with a sharp-pointed .30-caliber bullet in connection

These officers figured in lawsuit over the Springfield:



Brig. Gen. John Pitman
Designed the bullets



Brig. Gen. Samuel Hof
Okayed the designs



Maj. Gen. Thomas Green
Nicknamed 'Bullets'



Maj. Gen. Julian Hatcher
Submitted affidavits

Formal news of the newly adopted bullet was given to the world in July 1904. The raising of the secrecy ban at that late date was merely a formality since in September 1903 there had appeared in a Paris newspaper, *La Patrie*, a repetition of a statement made by a General de Gallifet at a tribune of the Chamber of Deputies to the effect that "from this day on the French Army is endowed with an improvement which doubles its power, and which shall make it tomorrow superior to the strongest European army". A statement like that could have but one effect. Old man Mars then and there got in a good plug, and other nations possessing armed forces were officially alerted unless, by some chance, the secret had not already been learned through underground sources. It soon became general knowledge that the French had changed to a sharp-pointed bullet. Perhaps German officials had previous knowledge of all that had been repeated by General de Gallifet, for subsequent disclosures indicate that the German rivals had not been sleeping—nor had they been talking. In February 1904, only five months after the Gallifet statement, the German *Spitzgeschoss* (pointed bullet) was announced. It was thereafter known as the S-bullet. There was an easily discernable difference between the *Balle D* and the S-bullet.

It has been felt necessary to tell the story of these two bullets so the reader may get a better understanding of what was going on in our own Ordnance Department to bring about the development and adoption early in 1906 of a pointed bullet to be called the M1906 (the term applied to both the bullet and the ammunition). Later the M1906 bullet led to a claim by a German company for royalties on the assumption that the new bullet infringed a patent on a similar projectile granted by the U. S. Patent Office in 1907 to one Arthur Gleinich.

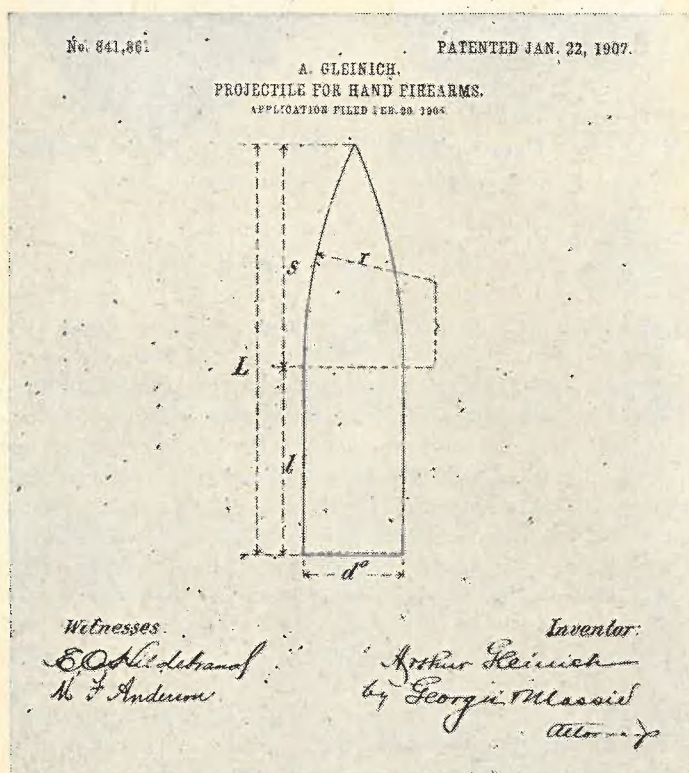
with a so-called Krnka-Hebler "tubular bullet", a Swiss bullet with a tube extending through its length. The officer was Lt. Col. J. P. Farley, who reported on his work on March 30, 1894, in a paper included in the annual report of the Chief of Ordnance as of June 30 of that year. There was no secret about the Farley bullet, but it was felt that the round-nose bullet was sufficient for the needs of the moment. When other countries, however, indicated their attitude toward increased velocity, flat trajectory and longer range, it was then up to the United States to do likewise. At that time (1904) there was on duty at Frankford Arsenal, and in charge of Small-Arms Ammunition Department, Major Samuel Hof (later Major General, Chief of Ordnance). That officer was called upon to design the new pointed bullet to replace the round-nose .30-caliber bullet then in use by American armed forces. How it was accomplished can best be told in General Hof's own words, which were incorporated in an affidavit submitted by him in connection with the claim for infringement of the Gleinich patent. Here is Hof's own story:

"Late in 1904 I received instructions from the Ordnance Department to design a new bullet for the (Springfield) rifle . . . Naturally . . . I designed a pointed bullet for the purpose, because that was the type of bullet from which we could obtain the highest velocity, with added advantages, as well as flat trajectory. The design of the bullet was worked out under my direction, the different dimensions being adopted for the purpose of making the bullet suitable for the Springfield rifle. Most of the work was done in 1905, and was completed early in 1906. . . ."

The next development was an application for a U. S. Patent filed on February 20, 1905 by one Arthur Gleinich of Konegs-

Wusterhausen, Germany for a projectile for hand firearms. On January 22, 1907 a patent was issued; meanwhile the inventor had assigned the patent to the Deutsch Waffen- und Munitionsfabriken, of Berlin, Germany.

America had been producing and using the M1906 bullet more than three years before attention was called to the Gleinich patent and the Ordnance Department advised that the '06 bullet was infringing the claims of the patent that had been issued to the German. That happened on November 17, 1909 when a Mr. H. Tauscher, on behalf of the owners of the Gleinich patent, sought to have the United States consider payment of royalty for the continued use of the bullet of our own design. The acting Chief of Ordnance at the time, Lt. Col. John T. Thompson, replied to the request by stating that the U. S. had produced the bullet as far back as 1894, and that since all the claims of the Gleinich patent had been anticipated, payment of royalty could not be entertained. From that date forward the owners of the patent made efforts to lease production rights to U. S. manufacturers of ammunition without appreciable success. Finally, on July 18th, 1914, only a few days before the outbreak of the war in Europe, the Deutsch Waffen- und Munitionsfabriken, through their American representatives, filed suit against the United States government in the U. S. Court of Claims for royalty on two hundred fifty million bullets at a rate of one dollar per thousand projectiles.



A. Gleinich's patent of pointed bullet with two-diameter arc provided basis of claim that the Springfield bullet infringed the Mauser patents

The claim remained a guest of the Court until about six months after the armistice of November 11, 1918, when it was seized by the Alien Property Custodian. In case any one may wonder why the Alien patent had not been seized earlier, the reason was that Congress had to enact the necessary legislation which did not become law until November 4, 1918, just one week before the Armistice was signed.

On March 19, 1928 the Congress passed a bill known as 'The Settlement of War Claims Act of 1928' whereby na-

tionals of former enemy governments who had suffered damages through seizure of their private property or other assets during the war might present their claims before an arbiter appointed to examine all the evidence presented. The arbiter was empowered to award compensation, if deemed warranted, not to exceed a total of \$100,000,000, on his certification to the Treasurer of the United States; his decisions would not be subject to review. The claimants were required to present their claims within four months after the arbiter had taken office. One thousand sixty-nine claims were filed and around six thousand patents were involved. In all the lot only one claim involved a bullet, and that was the Gleinich claim.

A couple of years passed before the case could be considered by the arbiter. The Judge Advocate General had set up in his office a Central Patent Section with Lt. Col. Joseph L. McMullen in charge. He was assisted by Captain Thomas H. Green, J.A.G.D., Mr. Franklin Little, a specialist on civil patents, and others, including Mr. William N. Roach, Chief of the Patent Section of the Ordnance Department. These gentlemen set to work at once to prepare to defend the government's side of the case. Mr. Little made a study of the claims listed in the Gleinich patent and, after comparing them with the dimensions of the pointed head of the projectile devised by Captain Piobert almost a century before (1835) and the Farley bullet (made in Frankford Arsenal in 1894), concluded on September 23, 1929 that the Gleinich claims had been anticipated. Captain Green also made an intensive study of shapes of bullets that were known to have been used in small-arms weapons. Just where he got so many samples was a mystery, but the story is told that he always had a handful in his pocket and knew each of them by name. His office mates presently nicknamed him "Bullets". The Captain even managed a trip to Europe to get evidence and has since told the writer that he spent a lot of his personal funds for which he was not reimbursed.

When the case was called in the spring of 1931, the claimant then recognized was the Berlin Karlsruher Industrie-werk. The contentions of both sides were heard and both sides were invited to submit briefs which the arbiter would consider before rendering a decision. The counsel for the claimant submitted a seventeen-page brief devoted to the claim and an appendix of 28 pages more of comment on points raised in various affidavits that had been submitted by government witnesses. In reading the brief, one could easily imagine the case was being tried in Germany instead of the United States, for considerable effort was made to convince the arbiter that the patent was infringed because the German Supreme Court had rendered certain decisions. So intent was the counsel that in one paragraph of the brief the word 'infringement' or 'infringe' was repeated exactly eight times.

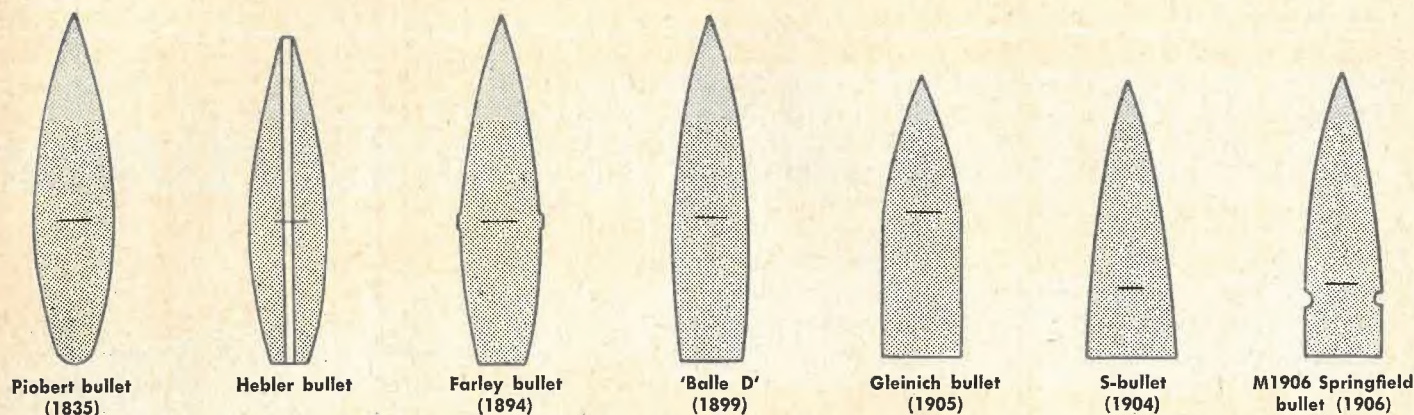
Among those Americans who submitted affidavits were General Julian S. Hatcher, Colonel Townsend Whelen, Langhorn D. Lewis and John E. Monroe. Their position in the field of small-arms weapons and ammunition was well-known to all except the claimant's counsel, who refused to see eye to eye with them. Captain Thomas H. Green's four pages contained a masterful and clearly understandable contribution which only fanned the intensity of the claimant counsel's denials and derision.

It took several pages of the claimant's verbiage to inform the arbiter that General Hof was badly misinformed and that if the arbiter would but compare the Gleinich bullet and the M1906 bullet he would see that the claimant had proved beyond doubt the 'identical arc of both.' The statement was only a wee bit of the flood of wry comments made by the

counsel, who doggedly refused to admit anything as true—except it be the claimant's contentions. Some of the other officers who came in for the counsel's caustic comments were Colonel William H. Tschappat (later Major General, Chief of Ordnance); Brigadier General John Pitman, who actually

weapon during the past two wars, was not overlooked in the comments any more than his fellow worker, Captain Jervey.

By December 15, 1931, the arbiter had completed his work and prepared the final list of awards to be made under the special law.



produced two of the original Farley bullets; Captain Frank J. Jervey, whose genius took five pages to belittle; Dr. (later Colonel) Samuel Gordon Green, whose praises could well be sung by every American soldier, sailor or marine who has manned a machine gun, automatic rifle or other shoulder

The final decision awarded the claimant \$300,000 damages and interest from July 2, 1921 (the end of the war) to December 31, 1928. The interest totaled \$112,520.55, making a grand total of \$412,520.55. Whatever so influenced the final decision is still a mystery to many. ♦ ♦ ♦

SPRAYGUN PRESSURE TEST

CONTINUED FROM PAGE 12

gun, a calibration strip tester, an assortment of coatings for different conditions and the services of a consultant. The \$1,000 covers all these. Don't waste your time (and theirs) asking them to sell you a quart of the gook. They won't do it. They've found that without complete instructions and equipment, satisfactory analysis cannot be done.

There are two possible ways you might handle this problem:

1) Hire a consulting engineer to do the testing for you. There are some very good ones around. They might run the tests if you'd ship them the guns and the loads. If you want to dicker with them, write to Greer Ellis, Magnaflux Corporation, 25 West 43 Street, New York. But don't forget that such men are highly skilled stress analysts and are consultants to many of the country's leading engineering firms. They probably wouldn't do any work that would run under \$100 or so.

2) Check the mechanical engineering department of your local engineering college. Ask for the professor who handles experimental stress-analysis work. Not many colleges have brittle-coating equipment, but if they do, you may be able to persuade the profs to do some testing for you at more modest fees. Maybe you could make a deal with a graduate student to do his thesis on testing your actions or loads.

3) A final possibility is the research and development laboratory of a local industry. Many of the big machinery manufacturers do brittle-coating analysis. If you can find a gun bug in one of those departments, you ought to be all set.

While I have no brittle-coating equipment myself, I'll be glad to hear from those who are interested in this method, and to help in any way possible. A collection of brittle-coating test results with different weapons and loads would be of great interest and value to experimenters. ♦ ♦ ♦

WEIGHING TRIGGER PULLS: After more than a quarter-century in this game, I was under the impression that trigger pulls had to be determined with a set of weights—or an elaborate improvisation of known weights hung on strings (RIFLEMAN, page 21, Oct. 1942). But one is never too old to learn. A few months ago an ex-GI who had adjusted thousands of service trigger pulls, gave me a demonstration of a much easier method. We tried it and it works. Sorry I have forgotten his name. . . . To determine the pressure required to release a rifle trigger, use a parcels post or household scale, usually available. Cock the *empty* rifle, rest it muzzle-down on the scale, and note weight in pounds and ounces. Lift the rifle very gently with a finger across the trigger. Note the weight of the gun at the time the hammer falls. Subtract this from the original weight, and you have the weight of the trigger pull. With brief practice and an ordinary household scale, readings as close as one ounce are easy.—PHIL SHARPE.